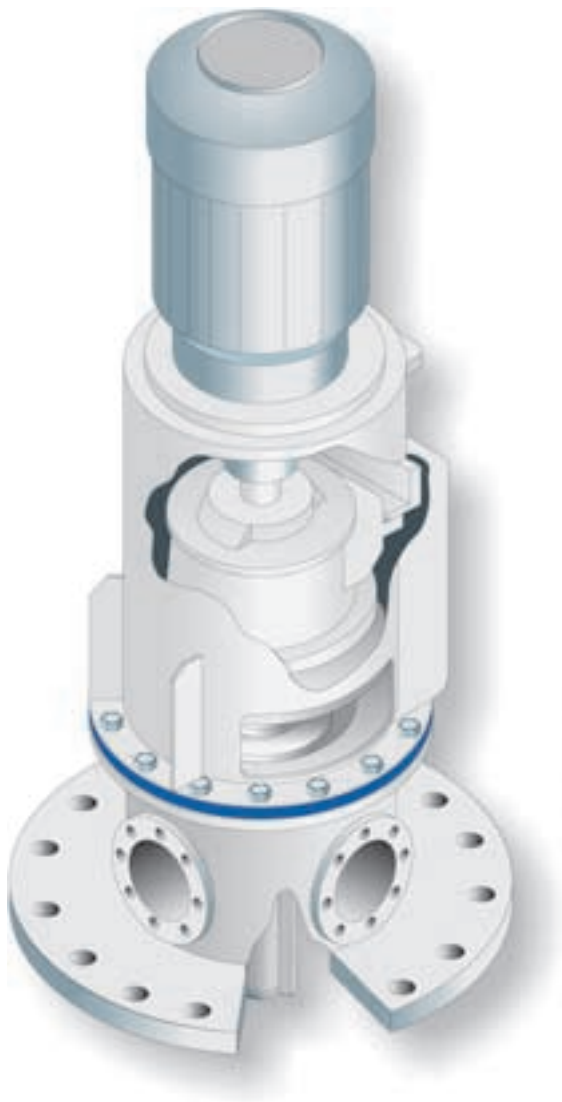


# Sulzer Pumps MC<sup>®</sup> Flow Discharger



# MC<sup>®</sup> Flow Discharger for Flow Splitting and Discharge of Medium Consistency Stock

When pumping medium consistency stock (8 to 16%), a plug flow is generated in the pipe. At normal flow velocities, the fiber network holds the plug flow together.

Dividing this kind of flow into precisely controlled partial flows at the end of a pipeline using valves alone is almost impossible, since the high consistency creates a risk of clogging. A similar risk may also occur when stock must be discharged into a pipe through a contraction, for example at the top of a bleaching tower.

The fluidizing MC<sup>®</sup> Flow Discharger has been developed for these applications.

## Operating Principle

Stock enters the casing of the Flow Discharger. Shear forces generated by the rotating rotor disrupt the fiber network thus fluidizing the stock. Fluidized stock behaves in the same manner as water as far as its flow characteristics are concerned.

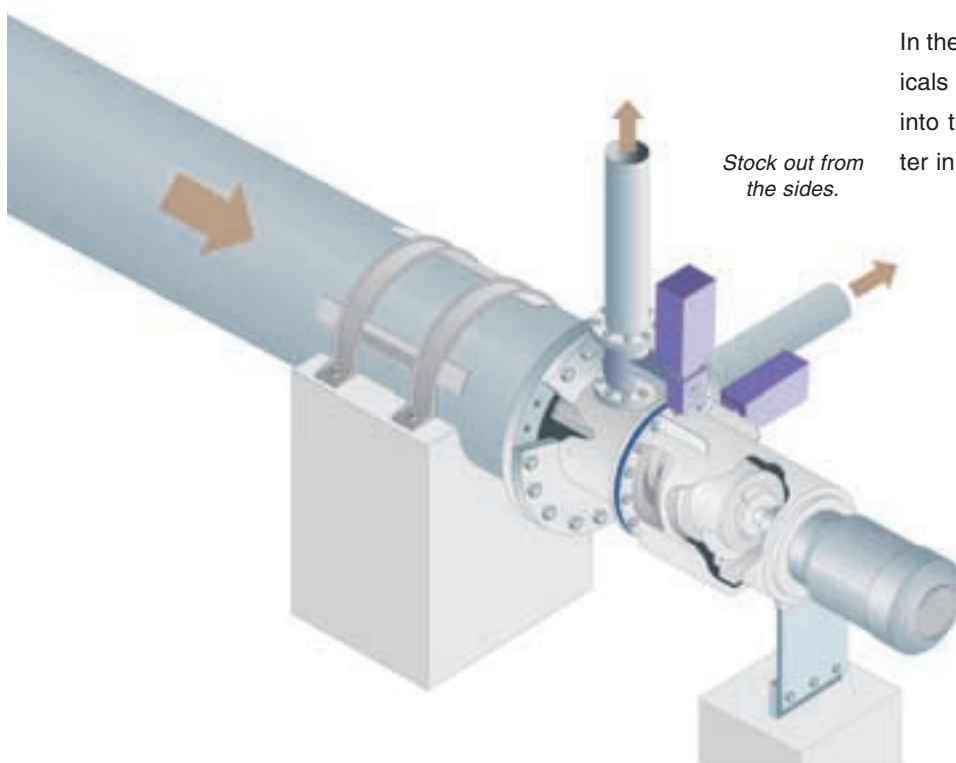
Depending on the application, up to four outlet connections are available in the Flow Discharger, all with control or on/off valves. Stock flow measurement can be carried out in a small diameter piping after the MC<sup>®</sup> Flow Discharger. The Flow Discharger itself does not generate pressure, so an MC<sup>®</sup> pump is required in the process to pump the stock through the Flow Discharger to the following process stage.

## Operating Conditions

The Flow Discharger can be installed at the end of a long pipeline to fluidize the stock and to divide it into partial flows, enabling the stock to be conveyed to between two and four different points. Without the Flow Discharger, this division would have to take place immediately after the MC<sup>®</sup> pump, and separate long pipelines would be required to each point.

Another installation alternative for the Flow Discharger is at the top of a bleaching tower to discharge stock from the tower through a contraction. In this application, the stock flow can also be divided to various destinations, if necessary. Air that can disturb the process can be removed in the Flow Discharger by using the gas removal model of the equipment.

In the Flow Discharger, various chemicals used in bleaching can be mixed into the stock, such as acidifying water in peroxide bleaching.



## Design

- consists of the fluidizing section, sealing section, bearing unit and motor support frame
- double-acting mechanical seals
- grease or oil lubricated bearings
- flange type motor
- flexible coupling
- can be installed either vertically, horizontally or in other desired positions

## Materials

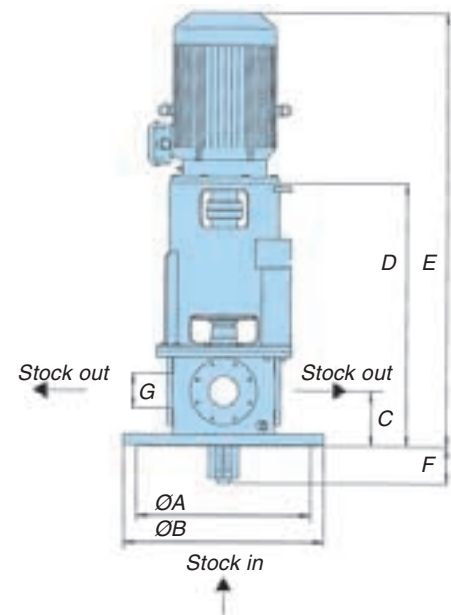
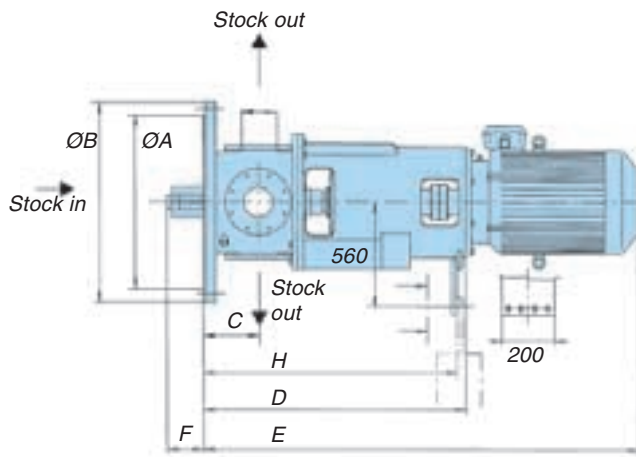
Parts in contact with stock are manufactured from stainless steel SS2343, 254SMO or titanium.

## Process Advantages

- suitable for a wide consistency range
- a single model can be used for the entire wide operating range of an MC® pump
- easy operational connection to the other process equipment
- stock can be divided or discharged without the risk of clogging
- air hampering the process can be removed from stock
- various chemicals can be mixed into the stock
- a Flow Discharger at standstill does not prevent stock flow
- low power consumption

## Product Advantages

- small space requirements
- easily installed at the end of a pipeline
- easily installed at the top of a tower
- can be mounted in almost any position
- several directions for outlet connections
- reliable direct drive
- easy maintenance
- small valves



## Operational Values \*

Size of Flow Discharger	40-P2-14	50-42
Typical production rate max.	1500 - 2000 ADMT/d	2500 ADMT/d
Standard design pressure	16 bar	16 bar
Standard design temperature	+ 120 °C	+ 120 °C
Drive motor size	37 kW - 75 kW	55 kW - 90 kW
Weight (without drive motor)	635 kg	1050 kg

\*For preliminary purposes only; depends on the process data requirements and on the model of the Flow Discharger.

## Main Dimensions, mm (for preliminary dimensioning)

Size	A	B	C	D	E	F	G	H
40-P2-14	725	840	227	1133	1805	155	80/100/150	1096
50-42	725	840	310	1415	2280	100	80/100/150/200/250	1385



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